

REMARKS

Claims 1-2, 4-8, 10-13, 21-29, and 32-33 are pending in the application. Claims 1, 8, and 28 have been amended, and claims 3, 9, and 31 have been cancelled. Claims 32 and 33 have been added to recite further embodiments of the present invention and do not add new matter.

Claims 1, 2, 7, 8, 13, and 21-27 have been rejected under 35 U.S.C. § 102(b) as assertedly being anticipated by U.S. Patent No. 5,905,278 to Nakabayashi ("Nakabayashi"). Claims 3, 5, 9, and 11 have been rejected under 35 U.S.C. § 103(a) as assertedly being unpatentable over Nakabayashi. Claims 4, 10, 28, 29, and 31 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Nakabayashi in view of U.S. Patent No. 5,838,035 to Ramesh ("Ramesh"). Applicants respectfully traverse these rejections.

Independent claims 1 and 8 have been amended to recite that the second conductive liner is *about 20 to about 50 Angstroms in thickness*. Independent claim 28 has been amended to recite that the conductive oxide is *about 20 to about 50 Angstroms in thickness*. The cited references fail to disclose, teach, or suggest these limitations. Similar limitations were previously recited in dependent claims 3, 9 and 31, respectively, which were rejected under 35 U.S.C. § 103(a). Thus, Applicants herein address the rejection of claims 1, 8 and 28 under 35 U.S.C. § 103(a).

The MPEP states: "Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art." (MPEP § 2143.01, Eighth Edition, Rev. 1, February 2003.) (Citations omitted.) "[I]mpermissible

hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art.” (MPEP § 2143, Eighth Edition, Rev. 1, February 2003.)

With regard to claim 1 (old claim 3) and claim 8 (old claim 9), the Office Action asserts that the above limitations “would have been an obvious modification to someone with ordinary skill in the art, at the time of the invention, to modify the structure as taught by Nakabayashi [and Ramesh] to include the thickness of the first and second conductive liners . . . in order to reduce oxygen diffusion into a conductive layer such as polysilicon below the multi-layer electrode.” (Office Action, page 5, paragraph 2.) A similar statement is made with regard to claim 28 (old claim 31). (See Office Action, page 6, paragraph 2). The Office Action, however, fails to indicate any teaching in the cited references that the use of a conductive liner (claims 1 and 8) or a conductive oxide (claim 28) with a thickness *about 20 to about 50 Angstroms in thickness* would reduce the oxygen diffusion into a conductive layer. Clearly, the only teaching of this limitation is Applicants’ disclosure, which is impermissible hindsight.

Furthermore, Applicants fail to understand the logic of the motivation recited by the Office Action. The Office Action asserts that the second conductive liner (claims 1 and 8) and the conductive oxide (claim 28) is equivalent to the IrO₂ layer discussed in reference to Figure 8 of Nakabayashi, wherein the IrO₂ layer is disclosed to be 100 nm, *i.e.*, 1000 Angstroms. (See also Nakabayashi, column 10, lines 50-56.) In contrast, Applicants claims recite a thickness of *about 20 to about 50 Angstroms* a factor of 20+ times thinner than the IrO₂ layer disclosed in Nakabayashi. Applicants do not know, and the Office Action fails to explain, how making the thickness of the layer thinner “reduce[s] oxygen diffusion into a conductive layer such as polysilicon below the multi-layer electrode” as asserted by the Office Action. (Emphasis added.)

It would appear that if one would want to "reduce oxygen diffusion" that one would make the layer thicker, not thinner. Thus, contrary to the assertions contained in the Office Action, there is simply no suggestion or motivating factor in the cited references to include a second conductive liner *about 20 to about 50 Angstroms in thickness* as recited in Applicants claims 1, 8, and 28.


Additionally, with regard to claim 28, there is no teaching, motivation, or suggestion to modify Nakabayashi to include a platinum liner, a conductive oxide, and a platinum layer as recited by Applicants claim 28. The Office Action references Ramesh, which assertedly teaches the use of a platinum layer. Neither Ramesh nor Nakabayashi, however, teaches or suggests *a platinum liner, a conductive oxide, and a platinum layer* as recited in Applicants claim 28. The only suggestion for such a combination is Applicants' disclosure, which is impermissible hindsight.

Thus, it would not be obvious, and there is no motivation, to modify the structures disclosed in the cited references as recited by Applicants claims. Accordingly, Applicants respectfully request that the rejection of claims 1, 8, and 28 under 35 U.S.C. § 102(b) in view of Nakabayashi be withdrawn. Claims 2, 4-7, 10-13, 21-27, and 29 depend from and further limit independent claims 1, 8, and 28 in a patentable sense. Accordingly, Applicant respectfully request that the rejections of claims 2, 4-7, 10-13, 21-27, and 29 under 35 U.S.C. § 103(a) be withdrawn as well.

In view of the above, Applicants respectfully submit that the application is in condition for allowance and request that the Examiner pass the case to issuance. If the Examiner should have any questions, Applicants request that the Examiner contact Applicants' attorney at the address below.

Respectfully submitted,

8-6-03
Date


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